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ABSTRACT

After presenting two contrasting team teaching methods in the same course, students were administered a Likert-type questionnaire with items which were designed to ascertain student opinion regarding their experiences under each method. First, an overall comparison of effectiveness between team teaching and traditional teaching revealed that: 1) students perceived team teaching as being a more effective method than the traditional single teacher approach; and 2) students were able to establish rapport in a team teaching structure as readily as they could under the traditional approach. Secondly, the extent to which the team approach was seen as effective depended on the organizational design of the team instruction. The students generally preferred a team in which there was a clear indication of a team leader to a team in which no one person was clearly identified as the leader. They thought that the former condition was a more well organized, cohesive sequence of instruction and permitted a greater degree of student-teacher rapport. The finding of a high correlation between the students' perception of their learning effectiveness and teacher-student rapport calls for further research. (CH)

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"Team Teaching: Student Perceptions of Two Contrasting Models."

by

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A. The Problem

Since the early 1960's some educators have recommended team teaching as a possible answer to some of our instructional problems. Practitioners and researchers have conducted numerous team teaching experiments at the elementary and secondary school level as well as at various universities and colleges. While much attention has been given to the theoretical development of the team teaching concept and to its possible pedagogical benefits, little empirical research has been conducted to investigate the comparative merits of different team structures in effectively promoting student learning.

This study is a move toward rectifying this imbalance by comparing two team teaching models. Here students' perceptions of their experiences under the two organizational models have been compared. Both models were implemented in a course entitled "The

Utilization of Educational Media," at the University of Maryland during the Spring Semester of the 1972-73 academic year. The course's description follows:

> This course will focus on the practical and creative utilization of educational media. The course will consider such topics as film study, non-electric (non-print) educational media, television, computer assisted instruction, audio media, simulation and gaming, and programmed instruction. The theoretical bases underlying the utilization of educational media will be examined. Selected basic production processes as well as basic operational procedures will be demonstrated and practiced. The student will have an opportunity to pursue an area of special interest through an individualized program.

This study intended to contribute to the available literature on team teaching in two ways: first, in regard to team teaching's overall effectiveness when compared to the traditional mode of having one teacher in the classroom for an entire semester; and secondly, in regard to the comparative effectiveness of two contrasting organizational models of team teaching.

B. The Literature

The advent of Sputnik in 1957 symbolized a challenge to American education. Trump and Bayham's small volume, Focus on Change: Guide to Better Schools, was in part a response to that challenge. The authors made a better future for the schools look possible. They pointed out the need for and possibilities of flexible scheduling, different kinds of facilities, learning centers, independent student and the accompanying

materials, variable group instruction, and team teaching.[1]

The focus of the present writers is on the structure and organization of team teaching efforts. For the purposes of this paper the following definition presented by Singer is accepted. Singer defined team teaching as:

> ...an arrangement whereby two or more teachers, with or without teacher aides, cooperatively plan, instruct and evaluate one or more class groups in an appropriate instructional space and given length of time, so as to take advantage of the special competencies of the team members.[2]

Since Trump and Bayham popularized team teaching in the early 1960's, much research on team teaching has been conducted. However, reviews of the literature have continually

expressed disenchantment with the quality of this research. In a scholarly analysis, Nystrand and Bertolaet concluded that "Much of the literature...continues to be essays, descriptive accounts, local success stories, and status surveys."[3] Joyce concluded similarly,

> The great push, especially at the secondary school level, to persuade schools to organize themselves into teaching teams and to make use of what have come to be called paraprofessional or sub-professional operatives on the teaching team has not resulted in much solid research....Nearly all of the 'research' that has accompanied this movement has been descriptive and subjective....[4]

Even more recently, Gallessich and Iscoe have concluded that "The impact of team teaching is as yet unclear.

Studies of this and other strategies for allocating pupils and educational resources have been weak in design and methodology."[5]

When compared to the often emotion-laden, descriptive commentary to be found in the literature,[6] findings such as those of Gallesich and Iscoe regarding student-teacher rapport and involvement in team teaching settings offer more substantive avenues for research. In their study of student teachers who were involved in a school where team teaching was the accepted mode of instruction they found,

> ...a number of student teachers complained of the difficulty in team teaching in learning names, knowing pupils personally, and understanding their back-grounds and individual needs. Even though they worked at times with these pupils in small groups,

> the responsibility for large numbers made development of close relationships difficult according to many student teachers.[7]

They also found that student teachers saw a "...lack of teacher-child involvement in the team setting..." and the student teachers believed that team teaching became "...subject-oriented at times rather than child-oriented."[8] Along a similar vein, Odetola, Erickson, Bryan, and Walker in their study found that teacher teams in a middle school organization did not support "...notions that teacher teams under middle school organization enhance student identification with their school or reduce feelings of powerlessness any more than do typical junior high school programs."[9]

Thus, some researchers have suggested the importance of student-teacher rapport as an important contributing factor in bringing about student

learning through team teaching. It was implied that the failure of team teaching may lay with poor rapport between the team and the students. The authors believed that this concern needed further research.

Furthermore, it was also apparent from the available research that team teaching structures vary considerably. For example, a team's organizational structure may vary from that of simply having a single teacher with an aide who is responsible largely for clerical duties to a more elaborate model utilizing the skills of several cooperating specialists. It is interesting to note that whereas there is some research on student-teacher rapport in team teaching the present writers have found nothing of significance in the literature which has experimentally examined the comparative effectiveness of various team teaching models in terms of student learning.

Consequently, the following questions were addressed in this study:

1) Do students perceive team teaching as being more effective in bringing about student learning than their experience of the traditional classroom option of one teacher in the classroom for one semester?

2) Do students find they can still establish rapport with their teachers even though there is more than one teacher responsible for the instruction?

3) Is there a perceived difference between the effectiveness of two contrasting team teaching models as used in this study in relation to student learning and student-teacher rapport?

C. Procedures

In order to investigate these questions two different approaches to team teaching were utilized in teaching the same content to two groups of students in a course in the utilization

of educational media at the University of Maryland.

The models are described below:

Model 1: In this approach there was a clear identification of the team leader. He was in the class at all times even when not directly involved in the instruction. His function was to coordinate and follow-up the instruction of the other team members who were brought in when their special competencies were deemed appropriate. The team leader was involved with each team member in the planning stage and was in the class during the instructional stage. The evaluation of the students was centralized with the team leader.

Model 2: All six members of the team were involved in the initial planning stage. During the implementation of instruction only the persons involved in the actual act of instructing were in the classroom. There was no one person clearly

identified as the team leader. Each person was provided with the freedom to instruct the class as he saw fit. There was no overall coordination of what was supposed to take place in the classroom. Suggestions were made by various members of the team, but the suggestions were not binding and no one person was in the classroom to coordinate instruction at all times. The evaluation of the students was made separately by each instructor throughout the course. For grading purposes, the grades were collected and averaged at the end of the course.

From the questions asked in the preceding section the following research hypotheses were generated:

1) Students will perceive the team-teaching method which they experience as being more effective in bringing about their learning than the traditional single teacher approach which they have experienced in other courses.

2) Students will perceive that they are able to establish rapport in the team-teaching structure as readily as they can under the traditional single teacher mode of instruction.

3) Students will perceive the team organized under Model 1 more favorably in terms of the articulation of the course topics and the general organization of instruction.

Of course, one problem associated with the complexity of experimental research in this area is the identification of an adequate criterion to measure the "effectiveness" of the teaching effort in bringing about student learning.[10] In this regard, and with some exceptions, there is a glaring absence of studies which have utilized student observations and opinion as such a criterion measure. This procedure was employed in the present study.

There is evidence available to suggest that students' observations

as measures of learning effectiveness can be of considerable help. Whittington and Lawler in working with fourth grade students illustrated the usefulness of student opinions.[11] They concluded "...that we need to listen more seriously to what children know and feel about us--their teachers."[12] Splaine illustrated that high school students' determination of what makes an effective teacher has a high correlation with what the research tells us about effective teachers. Further, in his study the student observations on the characteristics of effective teachers was highly correlated with similar ratings made by their teachers.[13] Thus, there is some precedence in the use of student opinion in assessing the effectiveness of teachers and teaching procedures and in the absence of definitive quantitative measures of the effectiveness of student learning, the writers used the student's perceptions.

The instrument used to collect student perceptions was a Likert-type questionnaire with items which were designed to ascertain student opinion regarding each of the three hypotheses. Students were required to agree or disagree with statements reflecting each of the three hypotheses. The students had no knowledge of the hypotheses and the items were randomly distributed throughout the questionnaire. Their responses were recorded on a scale from very strong agreement to very strong disagreement with the item statements. The questionnaire is given in Appendix A.

At the end of the course the questionnaire was verbally administered to three groups of students. The students responded independently on confidential answer sheets. Model 1 was used with two groups of students of size 39 and 38. Model 2 was used with the third group of 22 students.

The average profiles of each group were determined in terms of maturity as measured by age, professional experience as measured by educationally related work experience and teaching experience, and professional education as measured by the number of hours of education courses taken by the student. While the profiles of each group were different, the authors could distinguish no special characteristics which would identify them as different from the cross-section of students taking courses in the College of Education.

D. Analysis and Results

Table 1 shows the mean responses of the three groups to items under each of the three research hypotheses as well as their profiles. The weighting of the response scale is given in figure 1.

Table 2 shows the Kruskall-Wallace Statistic used to test the significance of the difference in item responses weightings of the groups for each hypothesis. The Kruskall-Wallace One Way Analysis of Variance was used rather than the more powerful Anova tests because the former test is based upon rankings and does not rely upon the assumptions of normality and randomness, which were not apparent in this study.

The correlations between the responses under each hypothesis is given in Table 3.

Overall, Table 1 indicates that the mean responses of those groups experiencing instruction under model 1 (groups A and C) to the items within each category were not significantly different at the .05 level. However, the profiles of these groups in terms of maturity (age), professional experience in, or associated with

education, and professional education (hours of education courses) were different. (Table 1)

The differences between the mean responses of these groups and those of Group C, which experienced instruction under Model 2 were, however, highly significant ($p < .005$) within each category. Thus the writers conclude that students who underwent instruction under the Model 1 team-teaching structure had perceptions concerning the effectiveness of the instruction, the student-teacher rapport generated, and the course organization, which were significantly different from those under Model 2. ($p < .005$). It is assumed therefore that the difference in perceptions can be attributed to the student's experiences under the different models rather than group composition in terms of their profiles since Groups A and C had similar perceptions but different profiles.

It should be noted, however, that students under Model 2, Group B were younger, less experienced, and had less professional training in education. These factors may in some measure have contributed to their perceptions.

Hypothesis #1. When the responses of all students were collectively analyzed this hypothesis was supported ($p < .05$). There was general agreement that the team-teaching which they experienced was more effective in promoting their learning than the traditional single-teacher approach. Further analysis, however, showed that while students in Groups A and C agreed with this hypothesis, those in Group C (Model 2) had a mean response which did not differ significantly from the position of neutrality or indecision (3.5) at the .05 level of significance.

Hypothesis #2. This hypothesis is supported by the data at the .005

level of significance. The students did not consider that they had greater difficulty in establishing rapport with the instructional teams than they had experienced under a single teacher. However, those who underwent instruction under Model 1 (Groups A & C), where the instructional team leader was clearly identified, visible most of the time, and explicitly seen as having responsibility for the coordination of instruction and evaluation of student performance, were significantly stronger in their support than those under Model 2 ($p < .005$).

Hypothesis #3. This hypothesis is supported by the data. Students perceived the two models as differing markedly in the extent to which the course, as they experienced it, was coherently organized and coordinated. Those under Model 1 strongly agreed with the proposition that the course was better coordinated than most they had experienced and that it was well

organized and was not confusing. Students under Model 2, however, had opinions to the contrary. They saw the course as more confused, less organized, and less coordinated when compared with other courses in their experience.

Table 3 shows there were highly significant correlations of 0.6454 and 0.6322 between mean responses to hypothesis #3 and hypothesis #1 and #2 respectively ($p < .005$). Hypothesis #1 is also significantly associated with Hypothesis #2. Thus, students who saw the course as confused, uncoordinated, and disorganized also saw themselves as learning less effectively and developing less student-teacher rapport under the team teaching model they experienced than under a traditional, single teacher mode. Those who viewed the course organization favorably in terms of their past experience felt

they had learned more effectively under the team-teaching model, and saw no introduction of greater problems of student-teacher rapport.

D. Conclusions

1. Within the context of this study, team teaching was perceived by students as being at least as effective in promoting their learning as the single teacher approach. This was true regardless of the organizational structure of the team. However, the extent to which the team approach was seen as more effective was dependent upon the organizational design of the team instruction.

2. Students strongly preferred a team under the explicit and recognizable control and direction of a single team leader. Student-teacher rapport was significantly high in such an instructional mode and students perceived themselves as learning more effectively.

3. Where the team members were clearly responsible to a single leader who directed their activities individually and coordinated them collectively, students perceived a well organized, cohesive sequence of instruction.

4. While the data indicates that either model was no less conducive in the development of student-teacher rapport than the single-teacher mode, it does indicate that with a single leader closely coordinating the team's activities, continually present, and having overall evaluative responsibility, there is a greater degree of rapport than without the continuous presence of a single team leader.

5. The high correlation between the students' perception of their learning effectiveness and teacher-student rapport cannot be disregarded. Further research needs to be done here. However, the authors tentatively further hypothesize that student-teacher rapport may be a fundamental ingredient

in the total learning process and that without rapport learning effectiveness is to varying degrees hindered.

E. Implications for Further Study

The issues examined in this paper need to be studied further. The findings may be different at another institution, with another population, and with another teaching team. Also, the instrument used in this study has not been validated over time. However, the researchers took advantage of an unusual opportunity to examine the effectiveness of two contrasting team teaching models in the same course in the same semester. The time necessary to validate the instrument was absent. Even with such limitations, the writers believe that the conclusions reached above can lead to improved practice and do provide the researcher and practitioner alike with a model for further research.

Footnotes

1. J. Lloyd Trump and Dorsey Baynham, Focus on Change: Guide to Better Schools (Chicago: Rand McNally and Company, 1961).

2. Ira J. Singer, "What Team Teaching Really Is": David W. Beggs, III, ed., Team Teaching: Bold New Adventure (Indianapolis, Indiana: Unified College Press, 1964), p. 16.

3. Raphael O. Nystrand and Frederick Bertoaet, "Strategies for Allocating Human and Material Resources," Review of Educational Research, XXXVII (October, 1964), p. 463.

4. Bruce R. Joyce, "Staff Utilization," Review of Educational Research XXXVII (June 1967), p. 325.

5. June Gallessich and Ira Iscoe, "Student Teacher Reaction to Training in Team Teaching Schools," California Journal of Educational Research, XXIII (May 1972), p. 138.

6. Kathy Schreiner, "Capitalizing on the Differences of Your Teaching Staff," School Management, XVI (June 1972), p. 31.

7. Gellessich and Iscoe, "Student Teacher Reaction to Training in Team Teaching Schools," p. 141.

8. Ibid., p. 142.

9. Theophilus Odetola, Edsel L. Erickson, Clifford E. Bryan and Lewis Walker, "Organizational Structure and Student Alienation," Educational Administration Quarterly, VIII (Winter 1972), pp. 21-23.

10. John I. Goodlad, "Thought, Invention and Research in the Advancement of Education,": Committee for Economic Development, ed., The Schools and the Challenge of Innovation. (New York: Committee for Economic Development, 1969), p. 100.

11. Kathryn D. Whittington and Patricia R. Lawler, "Children's Perceptions of a Teaching Team," The Elementary School Journal, 72 (December 1971), p. 156.

12. Ibid., p. 160.

13. John E. Splaine, "A Model Teacher Education Program for Teachers of Low Income High School Students" (unpublished doctoral dissertation, Boston University, 1973).

Appendix A

1. I have learned more in this course than in most other courses I have taken at this University.
2. I did not develop a close relationship with any teacher in this class.
3. I developed a closer relationship with at least one teacher in this course than I did in most of my other courses in this University.
4. Having different teachers come in to teach the area they specialize in aided me in my learning.
5. This course was better coordinated than most other courses I have had at this University.
6. I developed as much rapport in this class with at least one teacher as I have in other courses I have had at this University.
7. The learning experiences in this class were more meaningful to me than for most other courses I have had at this University.

8. In other courses, with just one teacher, I have learned just as well.
9. I do not think the classroom climate was as comfortable with the team approach as it has been with just a single teacher as I have had in other courses.
10. Specialists are needed in this course and a single teacher is just not as effective in bringing about learning.
11. The approaches in this class were varied and stimulated my learning.
12. I always knew who to approach with any problems or questions that I had.
13. The course was confused and disorganized.
14. I found at least one teacher in this class who was considerate of my problems.
15. The class developed a sense of cohesion and mutual rapport.

TABLE 1

Mean Response Summary

Hypothesis Proposition	#1	#2	#3	Age in Years	Years of Education Related Work Experience	Years of Teaching Experience	Hours of Education Courses
GROUP A	4.17	5.13	5.25	22.18	1.73	0.21	32.10
GROUP B	3.26	3.87	2.47	21.36	1.17	0.20	14.23
GROUP C	4.46	5.63	5.03	24.50	3.55	1.18	20.50

TABLE 2

K-W One-Way Analysis of Variance

	Hypothesis #1	Hypothesis #2	Hypothesis #3
Kruskall-Wallace Statistic H	$H_{R_A-R_B} = 12.2992^{**}$	428.5556^{**}	48.5712^{**}
	$H_{R_B-R_C} = 30.8397^{**}$	13.6658^{**}	41.1344^{**}
	$H_{R_A-R_C} = 3.1381^{*}$	0.8243^{*}	-5.2614^{*}

** $p < .005$ i.e. significant at the .005 level.

* $p > .05$ i.e. non-significant at the .05 level.

TABLE 3

Correlation Table

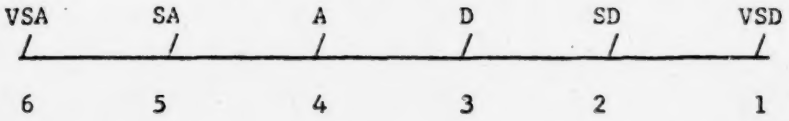
	Hypothesis 1	Hypothesis 2
Hypothesis 3	0.6454**	0.6322**
Hypothesis 2	0.5424**	1.0000

** $p \leq .005$

FIGURE 1

Weighting of Response Scale

positive items



negative items